7978

Diag. Cht. No. 9000-1, 8863-3, 8864-2, 8865

Form 504

cs-218

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. EX-30152 EX-30252 *Office No.* H-7978

LOCALITY

State ALASKA

General locality ALEUTIAN ISLANDS

Locality ALEUTIAN TRENCH-DELROF ISLANDS TO RAT ISLANDS

194 52

CHIEF OF PARTY

G. L. Anderson

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DATE APRIL 6, 1953

8-1870-1 (1)

7978

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H 7978

Field No. Ex 30152 & Ex 30252

State Alaska

General locality Aleutian Islands

Locality Aleutian Trench ~~south of~~ Delarof Islands to Rat Islands

Scale 1/ 400 000 Date of survey 19 May - 10 August 1952

Instructions dated 19 March 1952

Vessel U S C & G SS EXPLORER

Chief of party G.L.Anderson

Surveyed by D.M.Whipp
F.R.Gossett, J.C.Tison, E.F.Hicks, C.A. Schoene

Soundings taken by fathometer, graphic recorder, ~~hand lead, wire~~ NMC & NMC2

Fathograms scaled by Crowder, Larson, Andersen, Smith, Fortna.

Fathograms checked by DLC RCM CAS JEG RFL

Protracted by R.F.Lanier

Soundings penciled by Clarence E. Pedersen

Soundings in fathoms ~~feet at~~ ~~MLW MLLW~~ (uncorrected for tide)
and are based on a velocity of sound of 800 fms/sec.

REMARKS: On account of the great depths no tide corrections were applie

Fathometers calibrated for a sound speed of 800 fm/sec.
No velocity corrections applied.

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT
To Accompany
Hydrographic Survey H-7978 (Field Nos. EX-30152 and 30252)
Scale 1:400,000
USC & GSS EXPLORER
G. L. Anderson, Comdg.
Surveyed by F. R. Gossett, J. C. Tison, E. F. Hicks, C. A. Schoene and D. M. Whipp

A. PROJECT:

Project No. CS-218, instructions dated 19 March, supplemental instructions dated 12 May, 1952.

B. SURVEY LIMITS AND DATES:

This is an offshore survey of the Aleutian Trench, south of the Rat and Delarof Islands. Also included in the survey is a small area north of Tanaga and Kanaga Islands, the main portion of which was done while enroute to and from port at Adak. The western limit of hydrography is Long. 175°E; the eastern limit is Long. 177°W. Field work was begun 19 May 1952 and ended 10 August 1952. Work was also carried on during this period on sheets EX-2352, 10152 and, during the latter half of July, on sheet EX-10252 at Seguam, Project CS-343, in conjunction with the Ship PIONEER.

H-7976 H-7977 H-7993 H-7977 (1952)

Junctions were made with the following prior surveys:

Registry No.	Date	Scale
H-7626	1947	1:100,000
H-7627	1947	1:100,000
H-7652	1948	1:200,000
H-7711	1948	1:100,000
H-7741	1949	1:100,000
H-7895	1950	1:80,000
H-7891	1950	1:100,000

Review, par. 4.

→ junction not made, survey in Norfolk 10/7/53

→ Junctional area now in agreement, can be completed when H-7891 is completely verified.

Junction was made with contemporary survey H-7977 (EX-10152).

C. VESSEL AND EQUIPMENT:

The work on this sheet was done by the Ship EXPLORER. Soundings were taken in fathoms with NMC fathometer No. 54 and NMC-2 fathometer No. 60. Nearly all sounding was done with the NMC fathometer. When possible the NMC-2 was used for soundings up to 800 fathoms, but in rough weather soundings did not come in well on this fathometer, necessitating use of the NMC.

The turning radius of the EXPLORER at standard speed is 275 meters when full left about and 360 meters when full right about.

D. TIDES AND CURRENTS:

Tide stations on Tanaga and Ogliuga Islands were maintained during the period of this survey, but tide reducers were not applied because all soundings were greater than 200 fathoms.

Currents were measured by radio-current buoy at the following locations:
Station No. 19, southwest of Ilak I., Lat. 51°-24' N., Long. 178°-33'W.
Station No. 21, off southeast coast of Gareloi I., Lat. 51°-44.5' N., Long. 178°-44.5' W.
Station No. 26, in Ulak Passage, Lat. 51°-19' N., Long. 179°-02' W.

E. SMOOTH SHEET:

The smooth sheet projection was made by personnel of the Seattle Processing Office. Smooth plotting of positions was done on the EXPLORER. Soundings will be pencilled on at the Processing Office.

An error of one degree in longitude was made in the information furnished to the Processing Office; hence the sheet did not extend far enough to the west. It was found necessary to plot positions 71AE thru 16AF on an insert on the east edge of the sheet.

F. CONTROL STATIONS:

This survey was controlled by second and third-order triangulation, N. A. 1927 datum, executed in 1943 and 1944. EPI and shoran station antennae were tied into existing triangulation.

G. SHORELINE AND TOPOGRAPHY:

No shoreline is included in this survey. Shoreline added in Wash. Office (Review, par. 1)

H. SOUNDINGS:

All soundings were taken in fathoms with echo sounding equipment. See "C" above. Sounding lines were spaced in accordance with the instructions. No unusual methods were used to obtain or reduce soundings.

I. CONTROL OF HYDROGRAPHY:

Horizontal control was provided by EPI stations located on Tanaga, Amchitka, and Attu Islands, and by shoran stations located on Tanaga, Ogliuga and Unalga Islands. The major portion of the work was controlled by two EPI distance readings; some was controlled by two shoran distance readings, and some of it by a combination of one EPI reading and one shoran reading.

EPI and shoran distance corrections were determined by calibrations and the corrections applied to distance readings. Separate calibration reports have been prepared. See also the EPI and shoran correction summaries attached to this report.

EPI Report with H-7977

J. ADEQUACY OF SURVEY:

This survey is complete and adequate for charting. There are no prior surveys of the area. The depths at junctions with prior surveys are generally from 20 to 50 fathoms shoaler than the prior survey depths. This is probably because the soundings on this survey were taken with fathometers calibrated for a speed of sound in water of 800 fathoms per second and no corrections for temperature and salinity variations were applied. More complete details will be supplied after the smooth sheet is plotted. Review, pars. 4 & 7c.

K. CROSSLINES:

Crosslines amounting to 10% by mileage were run. Boat sheet crossings are generally in good agreement; detailed information concerning any discrepancies will be furnished later by the smooth plotter. Review, par. 2.

L. COMPARISON WITH PRIOR SURVEYS:

There are no prior surveys of the area covered by this survey. For a preliminary discussion of junctions with prior surveys of adjoining areas, see "J" above.

M. COMPARISON WITH CHART: Review, par. 6.

Chart 8863, print date 14 January, 1952:

Soundings from reconnaisance lines approaching 2000 fathoms charted near 51° N. Lat. are apparently placed too far offshore.

Variable differences in other charted deep soundings would indicate that some of them are misplaced; however no shoals or dangers were found.

Chart 8864, print date 19 March 1951:

Soundings on this chart are apparently from 1947 and 1948 surveys. For discussion of comparisons at junctions with those surveys see "J" above.

N. DANGERS AND SHOALS:

No dangers or shoals were discovered on this survey. The average depth of the bottom of the Aleutian Trench is well over 3,000 fathoms; one or two small areas rise above the surrounding depths but none to above 2,000 fathoms.

O. COAST PILOT INFORMATION:

This is an offshore area and no land areas are included in the survey. A special coast pilot report is being prepared for the season.

Normal weather conditions during the period of this survey were characterized by extended periods of fog and low visibility with visibility decreasing as the Aleutian Chain was approached. A clear sky was a rarity. Gales were frequent until early in July.

P. AIDS TO NAVIGATION:

None.

Q. LANDMARKS FOR CHARTS:

None.

R. GEOGRAPHIC NAMES:

ALEUTIAN TRENCH - The charted name of the ocean deep a portion of which is covered by this survey.

S - T:

Nothing to report.

U. MISCELLANEOUS:

Because of close line spacing the following positions were also plotted on Sheet No. H-7977 (EX-10152). Soundings will be pencilled on H-7977 only.

68 - 72 D
15 - 16 E
8 - 14 F
19 - 23 Q; 30 - 32 Q
3 - 8 R
39 - 59 AA; 63 - 70 AA

Referenced in Review, par. 7e

V - Y:

Nothing to report.

Z. TABULATION OF APPLICABLE DATA:

(a) Fathometer report for 1952 forwarded to office With H-7977
(b) Special Shoran Report for 1952 forwarded to office " "
(c) Two boat sheets, EX-30152 & 30252
(d) Three envelopes of fathograms
(e) Six sounding volumes
(f) One smooth sheet
(g) Special EPI Report for 1952 forwarded to office. With H-7977

Respectfully submitted

Roger F. Lanier

Roger F. Lanier
Ensign, USC&GS

APPROVAL SHEET

Hydrographic Survey No. H-7978 (EX-30152 & 30252)

All field records pertaining to this sheet have been examined by me and are approved.

The smooth plotting of positions has been completed. The sheet and records will be delivered to the Seattle Processing Office for pencilling the soundings.

George L. Anderson

George L. Anderson
Captain, USC&GS
Comdg. Ship EXPLORER

H 7978 Ex 30152 & 30252.

Aleutian Trench.

Processing Office Notes.

The boatsheets are on scale of 1/ 300 000 but the smooth sheet is 1/ 400 000.

The smooth sheet was prepared by the processing office, positions were plotted by ship's personnel, and the soundings were plotted by the processing office.

Smooth sheet.

The projection was made by hand on a cut sheet supplied by the Washington office. The control is from three EPI Stations and three Shoran Stations. For all six systems of arcs, points were computed along radii at suitable distances and the spaces between the points were subdivided into 20 statute mile or 200 Microseconds intervals, as suitable.

The westernmost sounding line falls off the projection and was placed in a box on the east side of the sheet at its proper latitude.

Development at
φ 51 10 λ 17920 W.

On account of a feature indicated on Sheet 7891 of 1950 a development was made of this area. The item explored is an extension of the ridge running southwest from the south point of Amatignak Island, and the depression on its northwest side. This development was plotted on H 7977.(1952)

Referenced in Review, par. 7e

Uncorrected soundings.

The soundings were made by fathometers calibrated to a sound speed of 800 fms/sec/ They were not corrected for velocity. In 1948 on Sheet H 7652 two lines were run across the Aleutian Trench along meridians 178 00 E and 177 10 E. The soundings of that sheet were corrected for velocity. The depths across the level bottom of the Trench were approximately 4010 fathoms. On the adjacent lines of H7978 the uncorrected depths are approximately 3850 fathoms. West of meridian 179 30 W Sheet H 7978 can be expected to differ from adjacent sheets to the north where velocity corrections were applied. Sheet H 7977 joins this sheet on the north between λ 179 30 W and 178 01 W. Uncorrected soundings are plotted on that sheet. There are no adjacent recent surveys to eastward of H 7977.

Velocity corrections added to present survey depths eliminated these differences.

The bottom of the Trench is remarkably flat, both in cross section and lengthwise. The variations in depths are scarcely more than the uncertainties of reading the fathograms. If 3840 fathoms is taken as a mean depth the soundings rarely vary more than 20 fathoms from this mean thruout the 320 miles length of this survey. There are other areas off the centerline of the Trench and at higher elevations which are quite as flat. Alongside the Trench long ridges occur with great persistence.

The Trench is about 8 - 10 miles wide between the 3800 fathom curves. The width of the Trench is very much constricted at λ 175 40 E.

At this constricted place is a 3900 fm. sounding, Position 27 AF Vol.6, which I have questioned. The fathogram is murky but the trace of the bottom can be followed fairly well if viewed in the most favorable light and from the best direction. I am unable to observe a dip in the floor of the trench and would read the depth as 3850 fms. Note that the original depth of 3860 fms. was changed on rescanning by the field party. I recommend that it be plotted as 3860.

Verified as 3850 fms.

A good deal of time has been spent drawing depth curves at 100 fm. intervals. This is not finished and will be submitted later on *tracing rather than hold the smooth sheet. Peculiarities of curves caused a rescanning of profiles with changes of depths in several instances. The profiles are often obscure and can be misread, even in the most favorable light.

*tracing not rec'd at time of Review

Edgar E. Smith
Cart. Engr.

Tidal Note

H 7878

Aleutian Trench.

On account of the great depth of water no tide corrections were applied to the soundings of this sheet.

H 7978 Ex 30152
Ex 30252

Aleutian Trench.

List of geographic names
penciled on smooth sheet.

Buldir Island

Rat Islands

Kiska Island

Segula Island

Little Sitkin Island

Amchitka Island

Semisopochnoi Island

Delarof Islands

Amatignak Island

Ulak Island

Kavalga Island — Unalga Island

Gareloi Island — Ogliuga Island

Ilak Island

Andreanof Islands

Tanaga Island

Kanaga Island

Adak Island

Pacific Ocean

Bering Sea

All names on this list approved. 4-30-53
L. Heck

Statistics for Hydrographic Sheet No. H-7978
Field No.: EX-30152 & EX-30252
USC & GSS EXPLORER

Date 1952	Day Letter	Volume	No. of Positions	Statute Miles
19 May	A	1	27	103.2
20 May	B	1	71	318.5
21 May	C	1	73	339.5
22 May	D	1	73	336.4
23 May	E	1 & 2	73	339.0
24 May	F	2	40	182.5
28 May	G	2	30	133.0
29 May	H	2	17	73.8
2 June	J	2	4	12.2
3 June	K	2	74	338.7
4 June	L	2 & 3	64	292.3
5 June	M	3	38	169.3
6 June	N	3	8	29.6
11 June	P	3	23	105.2
12 June	Q	3	32	149.3
13 June	R	3	54	234.3
14 June	S	3	74	354.1
15 June	T	4	31	131.2
16 June	U	4	17	76.1
18 June	V	4	12	49.2
19 June	W	4	6	21.6
1 July	X	4	20	69.9
2 July	Y	4	17	77.7
7 July	Z	4	20	78.5
12 July	AA	4	70	161.9
10 August	AB	4	11	24.0
6 June	BA	5	67	309.1
7 June	BB	5	73	334.7
8 June	AC	5	33	147.8
9 June	AD	5	9	36.5
10 June	AE	5	74	317.2
11 June	AF	5 & 6	52	248.5
	Totals		1287	5,594.8

Area - square statute miles: 24,767

See p 4 of D.R. for portions of lines plotted on H-7977

SUMMARY OF ZERO SETS
FOR ENTRY IN SOUNDING VOLUMES
HYDROGRAPHIC SHEETS

Registry Nos. h-7974(EX2152), H-7975(EX-2252), H-7976(EX-2353), H-7977 (EX10152), H-7978 (EX30152 and EX-30252), H-7052, H-7053.

Dates Inclusive	TAN	UGA	NAL	LAN
24 May to 13 July	99.800	99.823	99.825	99.793
6 Aug. to 13 Sept.	99. 815	99.834	99.807	

SUMMARY OF INDEX CORRECTIONS, EPI

To be entered in sounding volumes for hydrographic sheets Nos. H - 7978 (EX-30152 & EX-30252) and H - 7977 (EX-10152)

STATION TA	C8/T8		C7/T8	
	A	B	A	B
15 May to 24 May	-5.5	-5.8	-2.9	-3.8
28 May to 6 July	-6.4	-6.6	-6.4	-6.5
7 July to 13 July	-8.0	-8.3	-6.7	-7.1

STATION AM	C2/T3		C3/T5		C2/T5	
	A	B	A	B	A	B
15 May to 13 July	-6.6	-6.4	-5.5	---	-6.3	---

STATION AT	C6/T4	C6/T7
	B	B
19 May to 19 June	-8.5	-9.0
20 June to 13 July	-6.8	-7.0

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Coastal Surveys 15 April 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 6
volumes of sounding records for

HYDROGRAPHIC SHEET 7978

Locality Aleutian Islands, Alaska

Chief of Party: G. L. Anderson in 1952
Plane of reference is
ft. on tide staff at
ft. below B. M.

NOTE: Tide reducers not entered and are unnecessary on account of deep soundings.

Condition of records satisfactory except as noted below:

E.C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

GEOGRAPHIC NAMES

Survey No. H-7978

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Alaska										1
Aleutian Islands		for title								2
Alaska Trench										3
Bering Sea										4
Rat Islands										5
Delarof Islands										6
Andreanof Islands										7
Pacific Ocean										8
				Names approved 4-30-53						9
				It is believed that						10
				for a sheet covering						11
				so large an area the						12
				above names are suffi-						13
				cient. If it should be						14
				desired to show individ-						15
				ual islands by name,						16
				all names penciled						17
				on sheet have been						18
				checked L. Heck						19
				(see typed list)						20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7978...

Records accompanying survey:

Boat sheets ..3..; sounding vols. ....6; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 3 Env.;

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report; .....

....Fathometer Report & Specia Report on E.P.I. filed with 7977.....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		1287
Number of positions checked		110
Number of positions revised		7 *
Number of soundings revised (refers to depth only)		66
Number of soundings erroneously spaced		———
Number of signals erroneously plotted or transferred		———
Topographic details	Time	.....
Junctions	Time	80 hrs
Verification of soundings from graphic record	Time	15 hrs

Verification by A.J. Hoffman .....Total time 295 hrs. Date 11/17/53
Shoreline & Depth Curves - T.A. Dinsmore 24

Reviewed by J.A. Dinsmore ..... Time 33 Date 2/17/54

* Positions were revised slightly in the junctional area with larger scale prior surveys to effect a better junction.

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7978 EX-30152
FIELD NO. EX-30252

Alaska, Aleutian Islands, Aleutian Trench

Project No. CS-218

Surveyed - May - Aug. 1952 Scale 1:400,000

Soundings: Control:

NMC and NMC-2 E.P.I.
Fathometers Shoran

Chief of Party - G. L. Anderson
Surveyed by - D.M.Whipp, F.R. Gossett, J.C. Tison, E. F. Hicks
C.A. Schoene
Protracted by - R. F. Lanier
Soundings plotted by - C. E. Pederson
Verified and inked by A. J. Hoffman
Reviewed by - T. A. Dinsmore 17 Feb. 1954
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline of the islands has been outlined on the smooth sheet only to show the positions of the islands in relation to the offshore hydrographic coverage of this survey.

The origin of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Submarine Relief

The usual depth curves are adequately delineated. The 1500, 2500 and 3500 - fm. curves have been added to emphasize the submarine relief.

The survey for the most part covers about 320 miles of the Aleutian Trench south of the Rat and Delarof Islands. A small portion of the survey lies along the insular slope north of Tanaga and Kanaga Islands.

Although numerous ridges occur along the slopes of the trench, the bottom of the trench is relatively flat and smooth. Depths along the axis of this portion of the trench range from 3850 - 4000fms.

No unusual submarine features are apparent in the detached area on the northeast.

4. Junctions with Contemporary Surveys

After the application of velocity corrections to the present depths in the junctional areas, adequate agreement was effected between present depths and depths on the following surveys:

H-7626 (1947) on the northwest
H-7627 (1947) on the north
H-7711 (1948) on the north
H-7652 (1948) on the north
H-7741 (1949) on the north
*H-7891 (1950) on the north

*The transfer of junctional soundings is deferred pending the complete verification of H-7891 (1950).

The junctions with H-7805 (1950), H-7973 (1952) and H-7977 (1952) on the northeast will be considered in the reviews of those surveys.

Other project surveys on the northeast and east have not yet been received in this office.

There are no surveys on the south and west.

5. Comparison with Prior Surveys

There are no prior surveys in this area.

6. Comparison with Chart 8863 (Latest print date 1/14/52)
8864 (" " " 9/29/52)
9102 (" " " 10/1/51)

A. Hydrography

Little information is charted within the limits of the present survey. The charted hydrography originates with prior exploratory and trackline surveys by this Bureau, the U. S. Navy and other sources.

Appreciable differences are noted between the charted and present survey depths particularly on the insular slope southeastward of the Delarof Islands. In this locality, differences between charted depths and present survey depths are indicated in the following comparison:

Latitude	Longitude	Charted Depth	Survey Depth
50°57.7'	179°02.4' W	1160	2000
50°58.2'	178°27.6' W	1860	2200
50°58.0'	178°19.4' W	1700	2500
50°58.5'	178°02.5' W	1720	2450
50°58.5'	177°45.3' W	1900	2300
50°59.0'	177°27.8' W	1800	2230

The 993-fm. sounding charted in lat. 51°57.3', long. 178° 26.8' W, from an undetermined source should be disregarded. Falling in depths of 1400-1500 fms. on the present survey, the prior sounding (charted since 1894) is considered to be 500 fms. in error or out of position by several miles.

Numerous other differences of several hundred fathoms are noted between the survey and charted depths. These differences are attributed to errors in position of the prior trackline soundings which were controlled by dead reckoning.

The present survey supersedes the charted information.

B. Aids to Navigation

No aids to navigation are charted in these open-sea areas. No dangers to navigation are revealed by the survey.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotting was accurately done.

c. Velocity corrections were applied to the present survey depths in the overlapping or junctional areas with the surveys on the north in order to smooth out the transition between corrected and uncorrected soundings in those areas. The corrections amounted to as much as 155 fms. in depths of 3800 - 4000 fms.

d. No bottom characteristics were obtained on this original survey.

e. In the vicinity of lat. 51°10', long. 179°20' W., a close development was made of a ridge extending southwest from Amatignak Island. This development has been smooth plotted on larger-scale survey H-7977 (1952). The positions of the sounding lines involved are listed in paragraph U., page 4 of the Descriptive Report.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered to be basic for the area covered and no additional field work is necessary. The lack of bottom characteristics is mentioned as a matter of record.

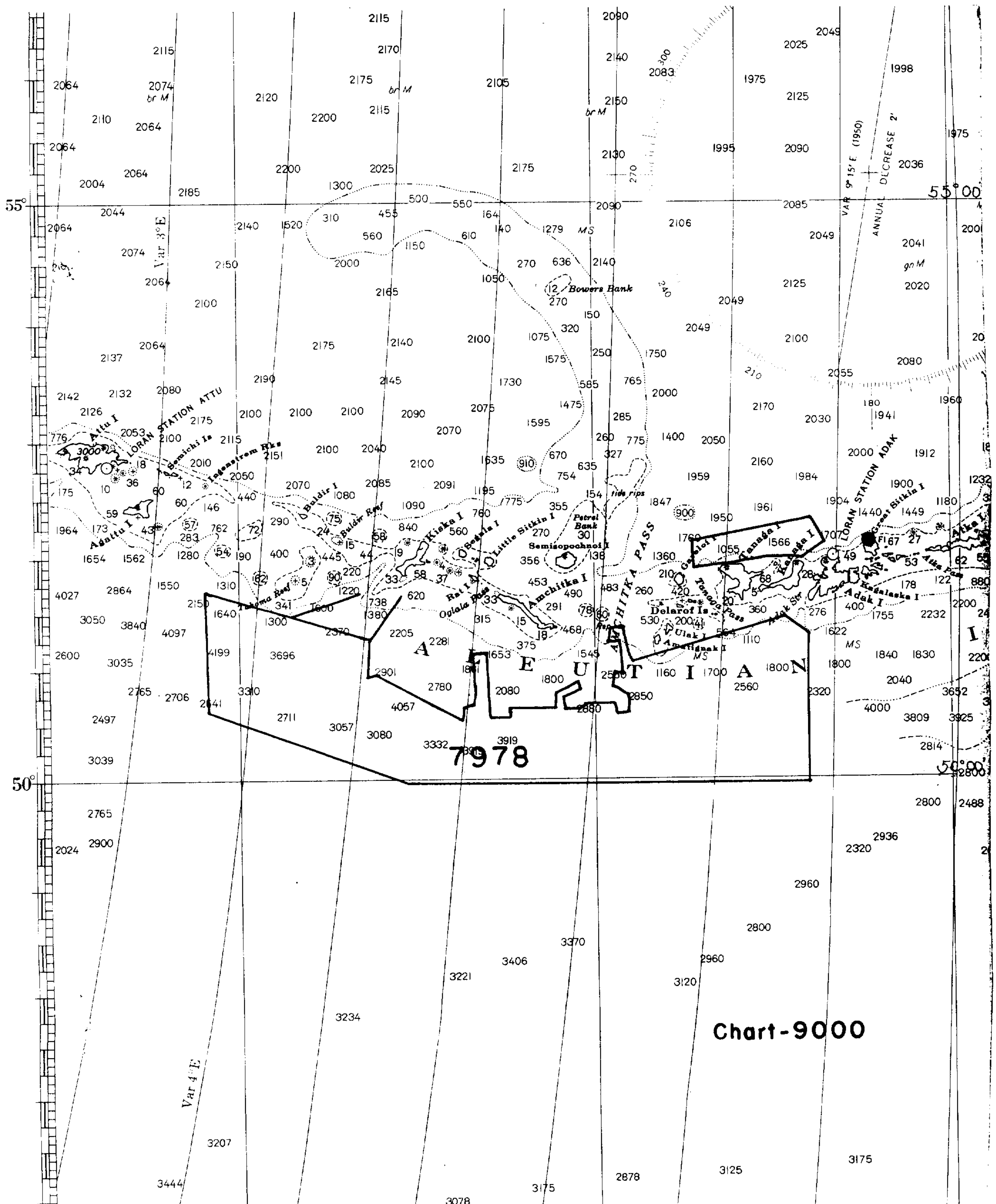
Examined and approved

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

G. R. Fish
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys



55°
50°
55°00'
50°00'
175°00'
180°00'
175°00'
7978
Chart-9000
Var 3°E
Var 4°E
VAR 9°15'E (1950) ANNUAL DECREASE 2'
LORAN STATION ATTU
LORAN STATION ADAK
Attu I
Agattu I
Semichi Is
Ingenstrem Rks
Buldir I
Buldir Reef
Kiska I
Segula I
Little Sitkin I
Semisopochnoi I
Petrel Bank
Bowers Bank
Rat I
Oglala Pass
Amchitka I
AMCHITKA PASS
Tanaga I
Kanaga I
Gareloi I
Tanaga Pass
Delarof Is
Ulak I
Amatignak I
Adak Str
Adak I
Great Sitkin I
Kagalaska I
Atka I
Atka Pass
Tahoma Reef
ALEUTIAN
tide rips

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7978

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6/16/53	9193	R.D. Goodrich	Before ~~After~~ Verification and Review Partially
12/2/53	9102	Chas R. Wittmann	~~Before~~ After Verification before review ~~and Review~~ J.M.A.
8 Feb 55	9146	H.E. MacEwen	[redacted] After Verification and Review (13 soundings added)
Jan 1956	8863	H. Heyman	~~Before~~ After Verification and Review completely.
5/22/57	9102	Chas R. Wittmann	~~Before~~ After Verification and Review rev. direct from survey " JMC
3-20-61	9000	J.M. Albert	~~Before~~ After Verification and Review completely via 9102
12/61	8864	WE	~~Before~~ After Verification and Review
4-26-63	8865	Geo Frogoyi	~~Before~~ After Verification and Review Completely opped Overlap three chs 8864 Rad direct
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.